



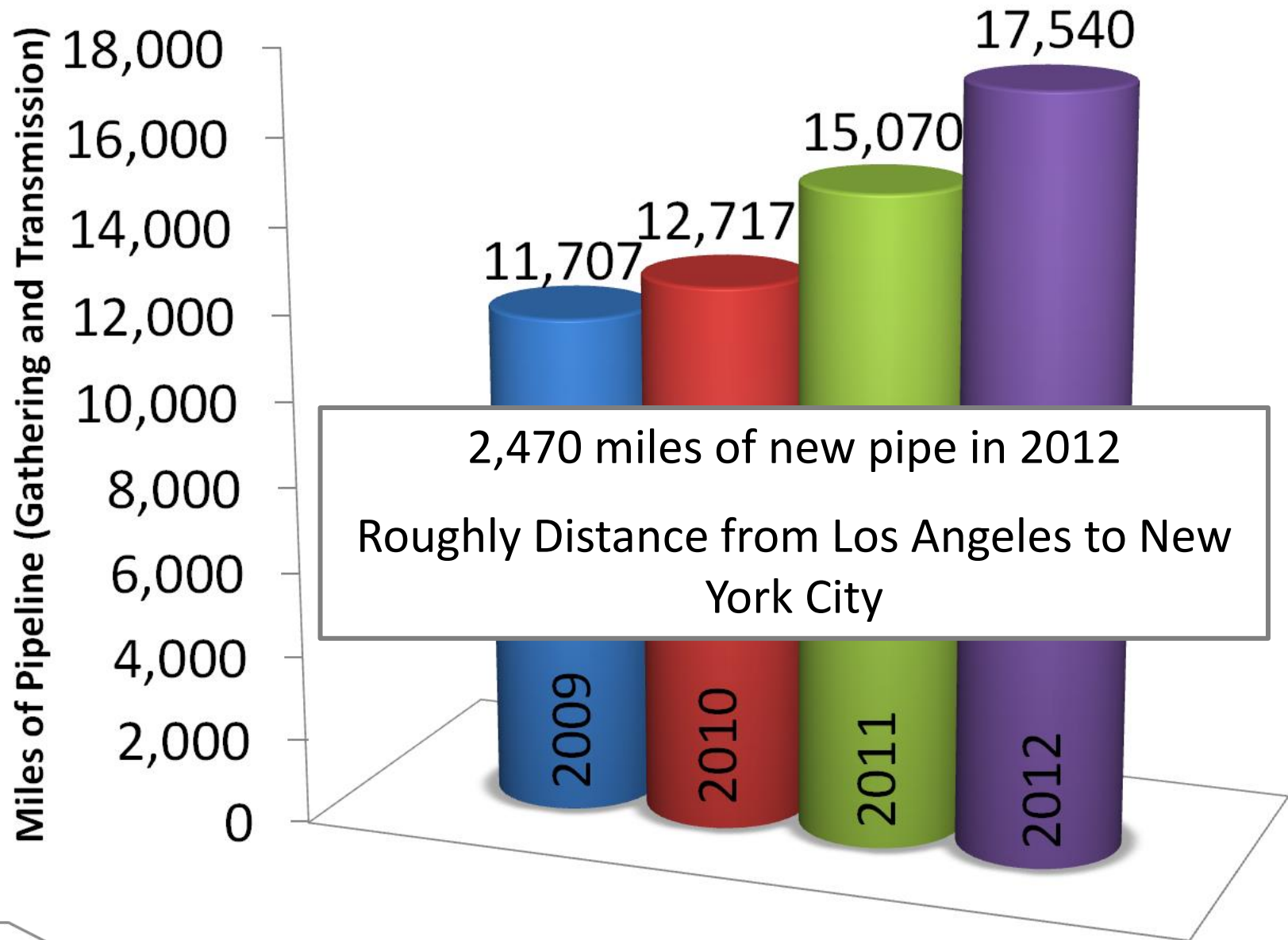
# **Governor's Pipeline Summit**

**North Dakota Pipeline Authority**

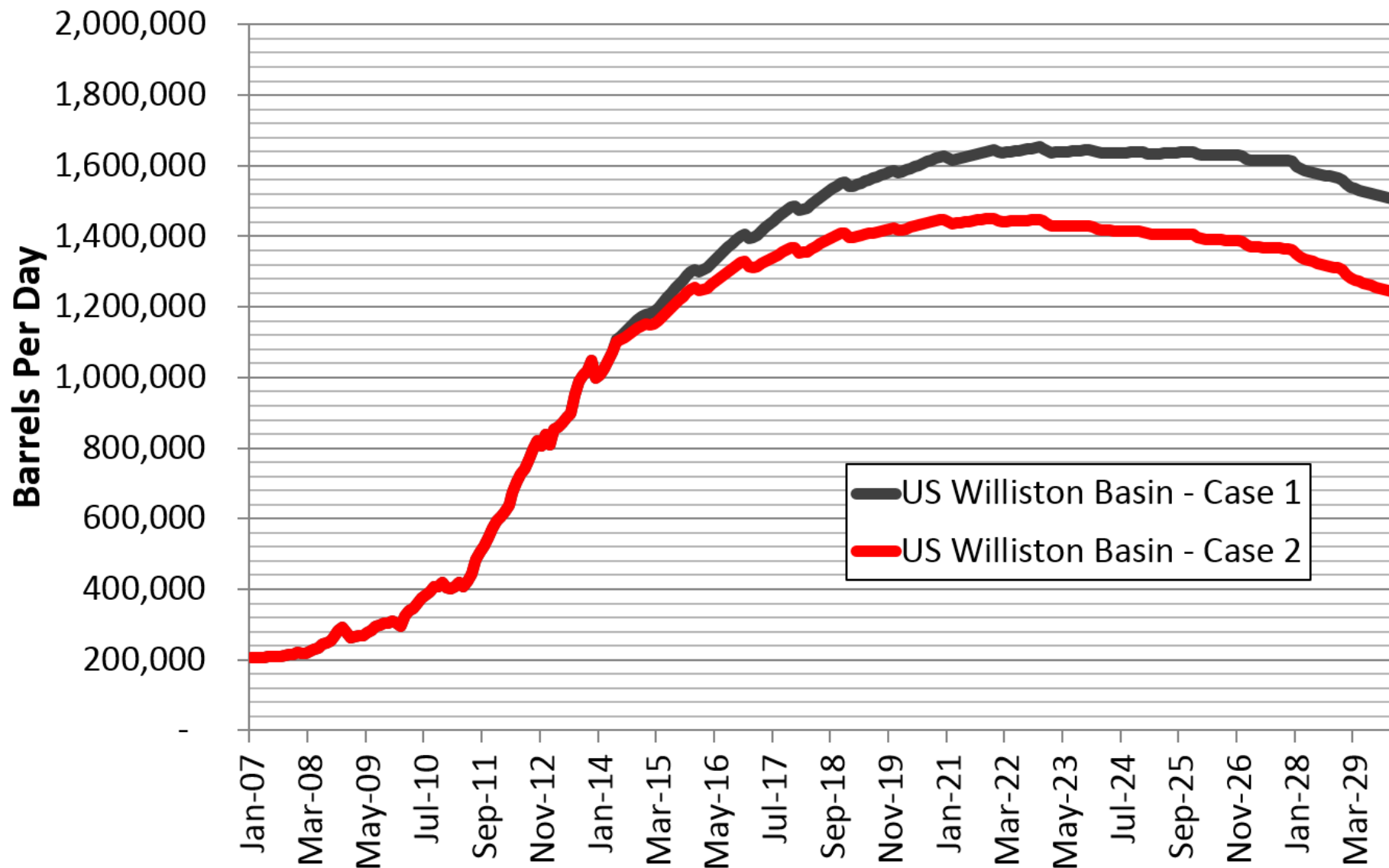
**Justin J. Kringstad**

**June 24, 2014 – Bismarck, ND**

# North Dakota Pipeline Miles



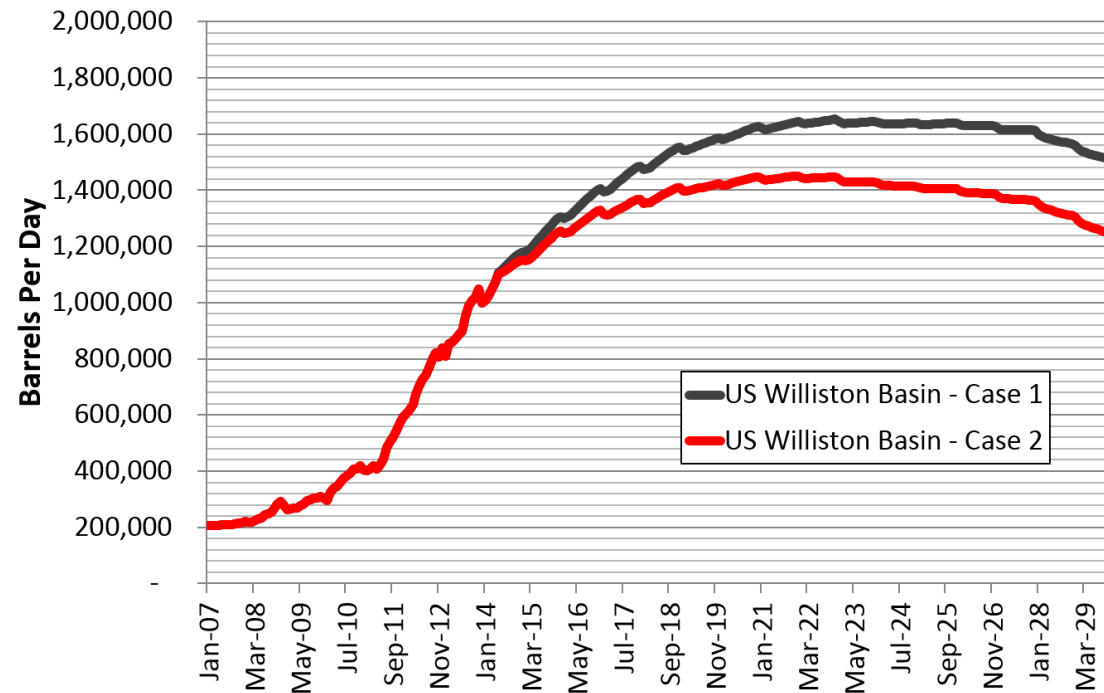
# Forecasting Williston Basin Oil Production, BOPD



*Production forecast is for visual demonstration purposes only and should not be considered accurate for any near or long term planning.*



# Forecasting Challenges



## Current Model

- Approx. 30,000 New Wells Out to Dec 2029
- Average EUR Roughly 400,000 BBLS
- Average First Month Production of 347 BOPD

## Ongoing Considerations

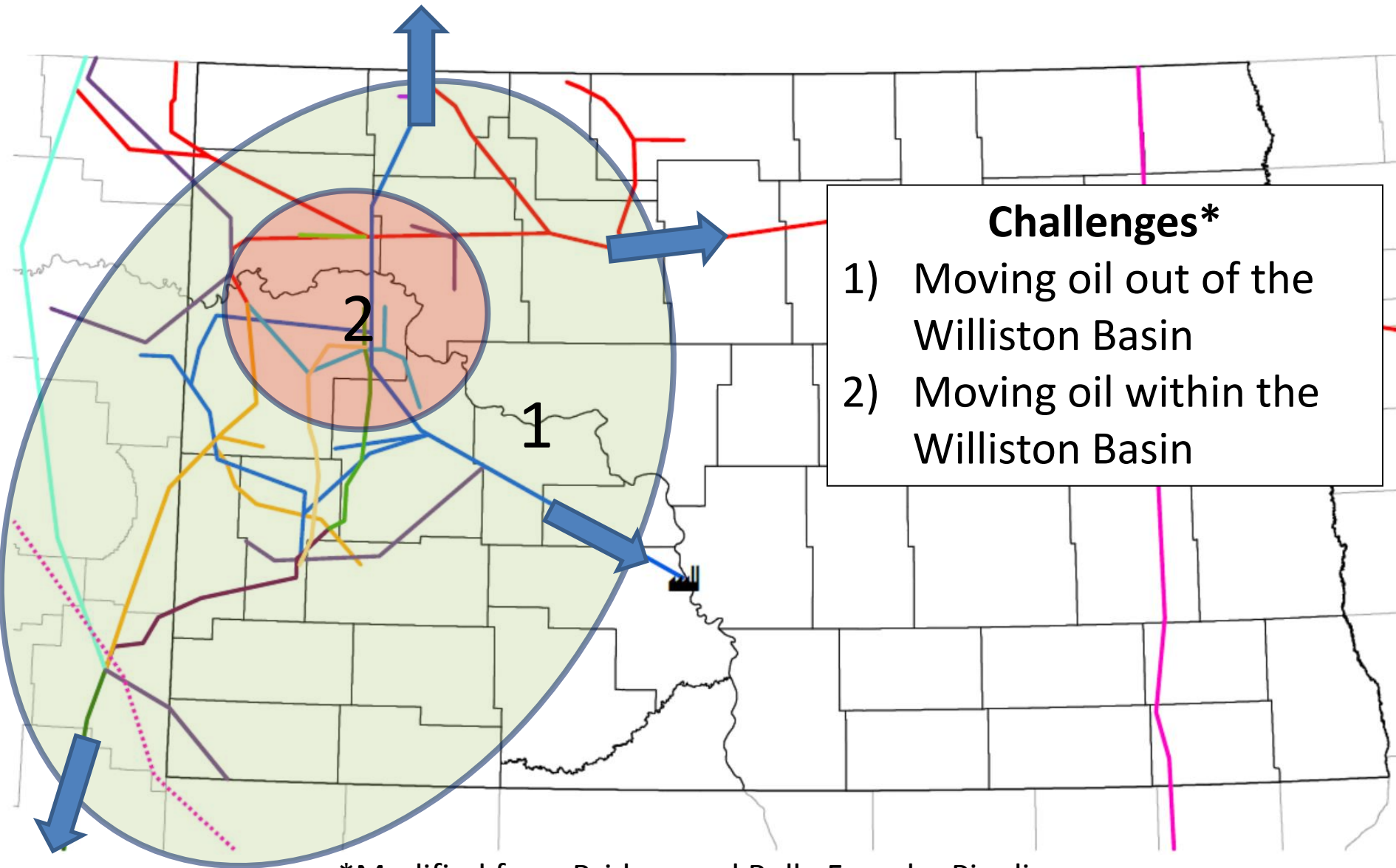
- Increased Density Drilling
- Drilling Efficiencies
- Improving Completion Techniques
- Productivity of the Lower Three Forks
- Eastern Montana Success

## Long Term Considerations

- EOR Opportunities
- Pricing
- Competition
- Additional Williston Basin Plays



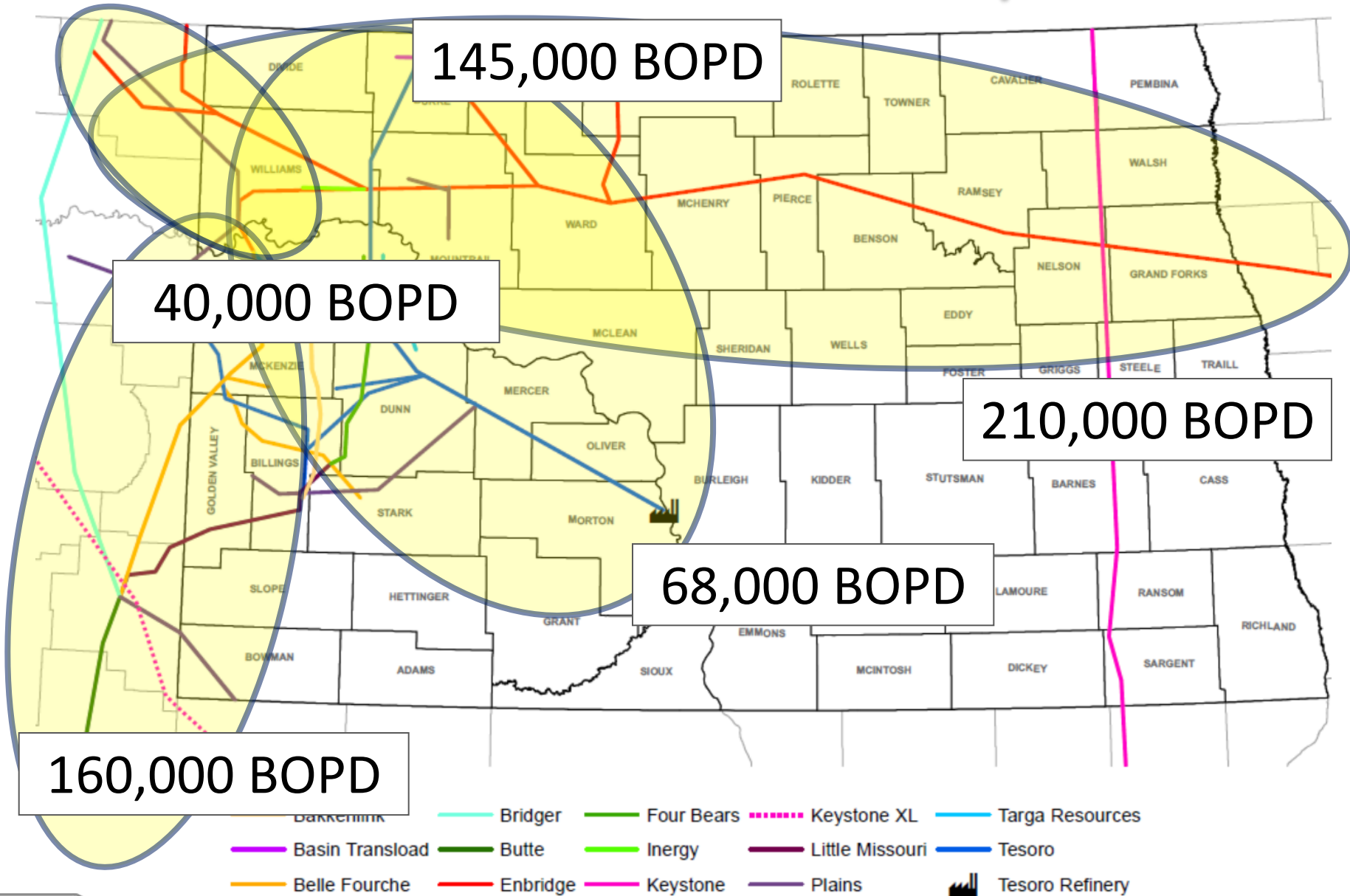
# North Dakota Crude Oil Pipelines



\*Modified from Bridger and Belle Fourche Pipelines

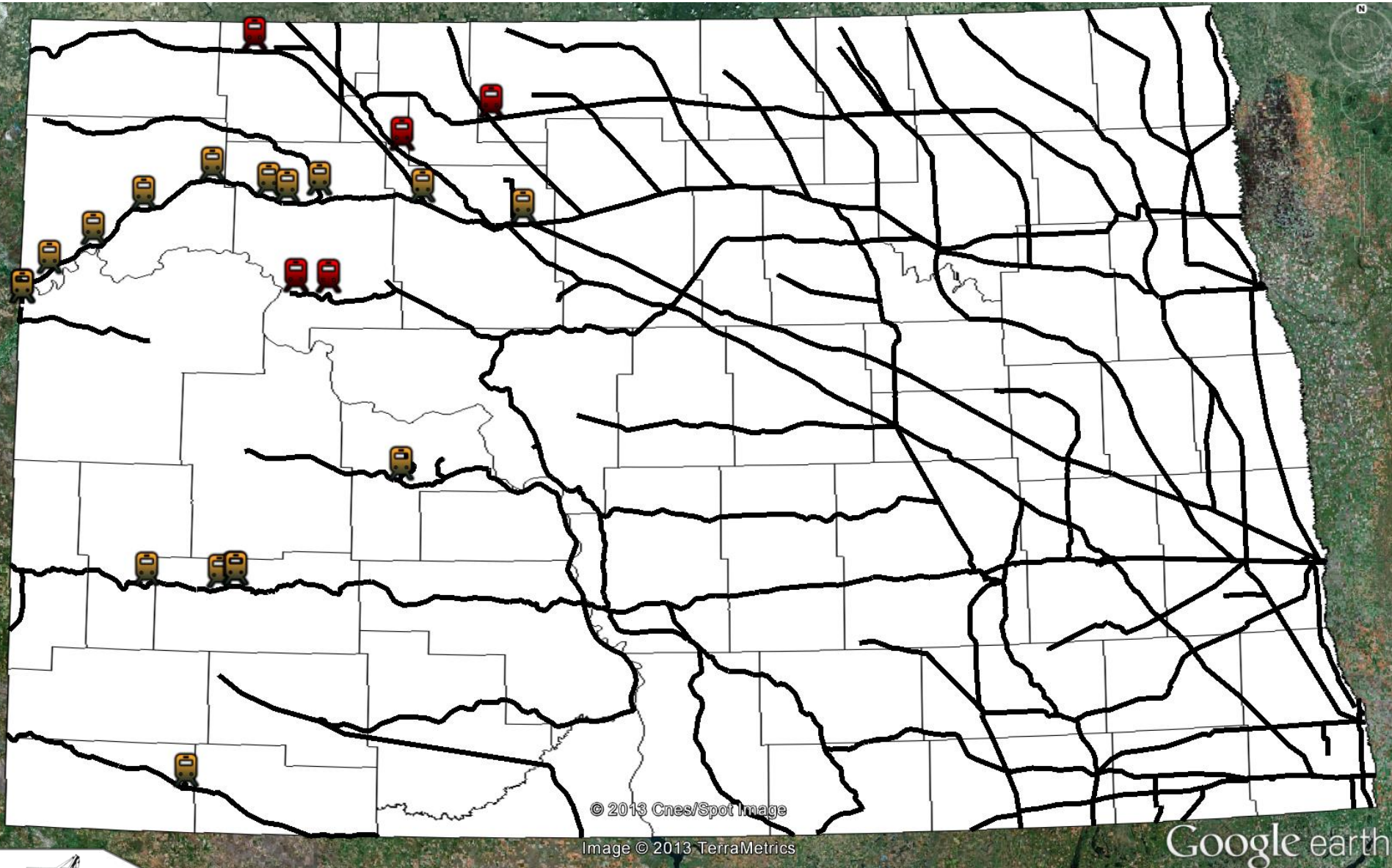


# North Dakota Crude Oil Pipelines

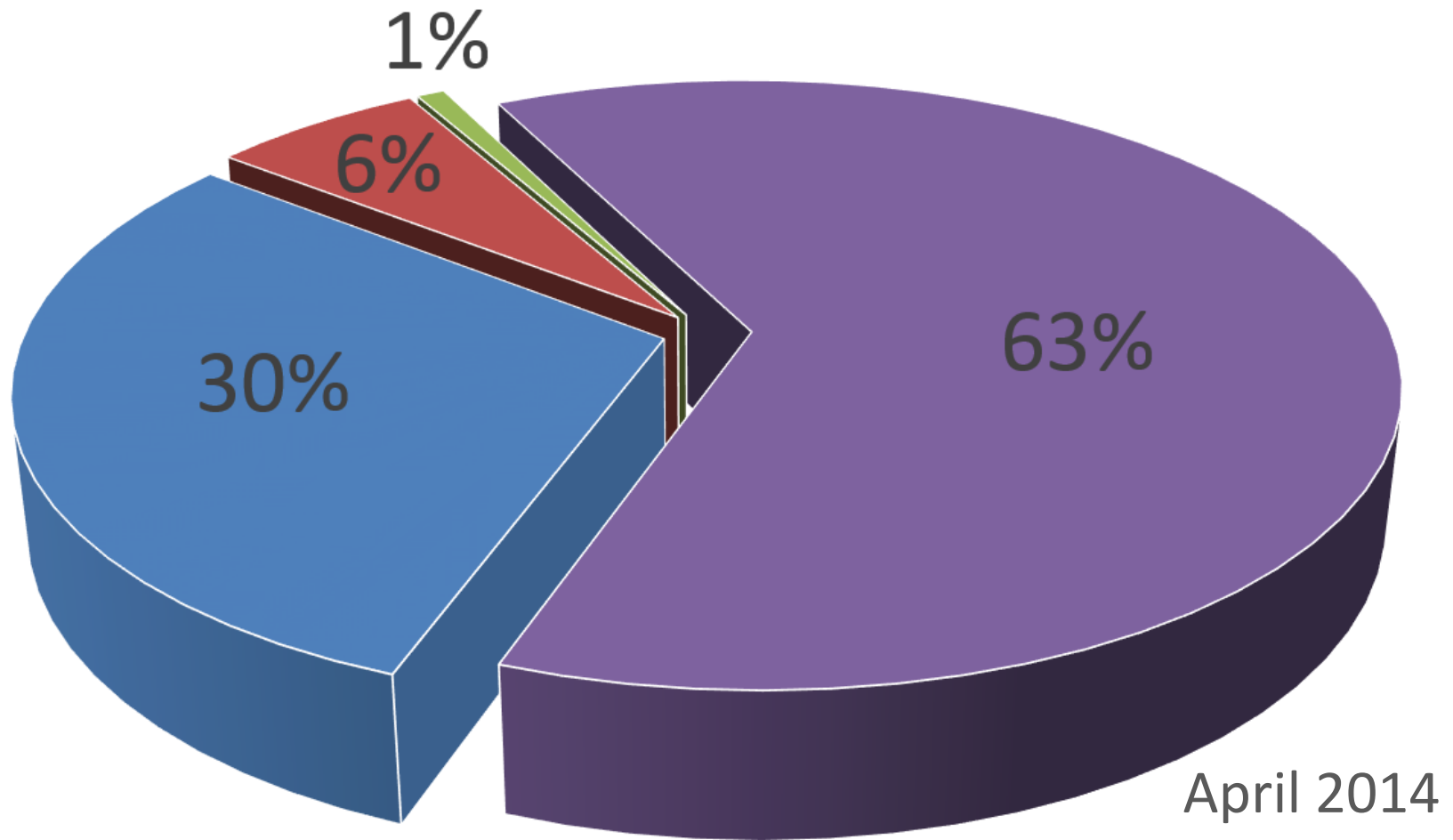




# Oil Loading Rail Facilities



# Estimated Williston Basin Oil Transportation



■ Estimated Pipeline Export

■ Tesoro Refinery

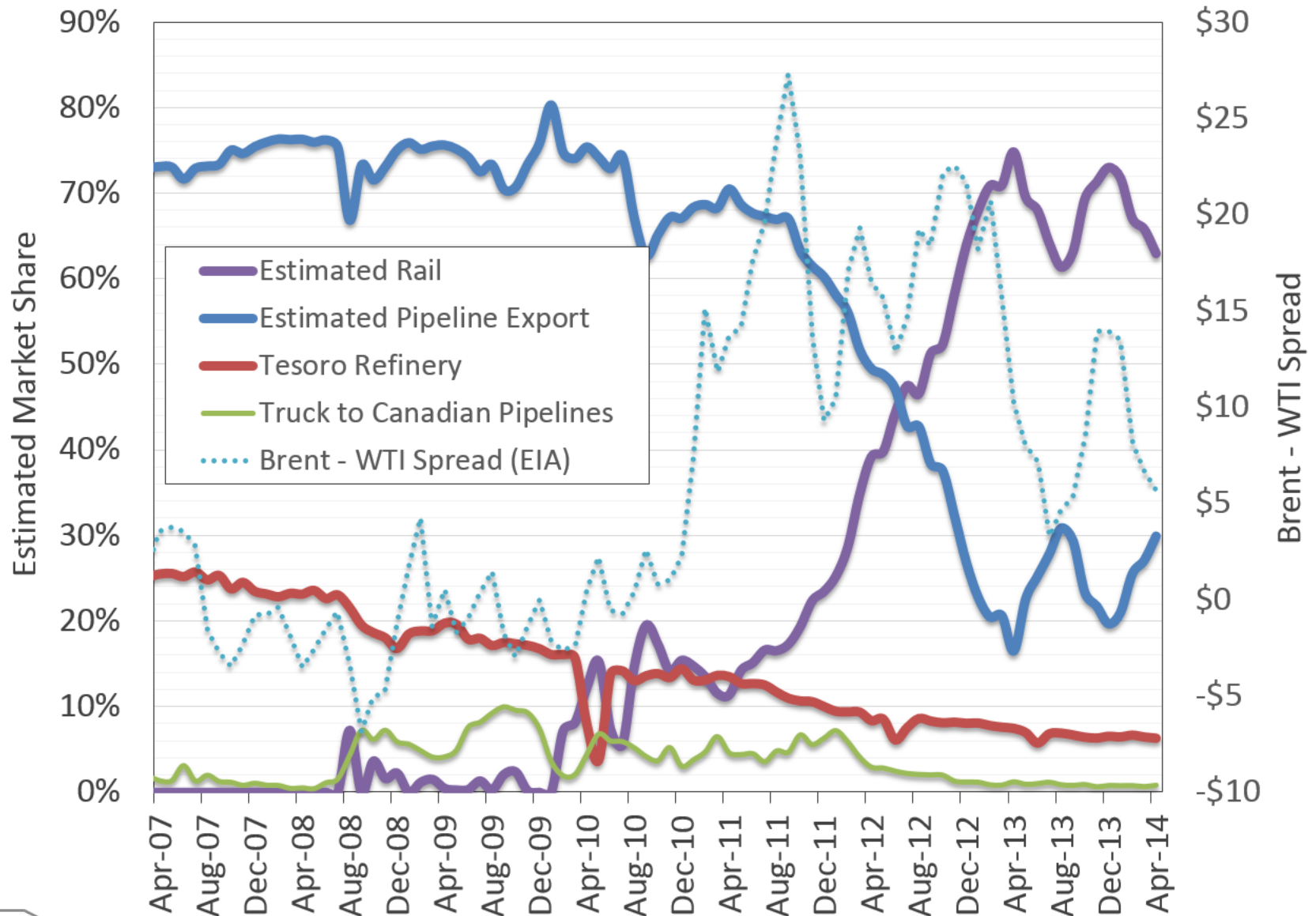
■ Truck to Canadian Pipelines

■ Estimated Rail

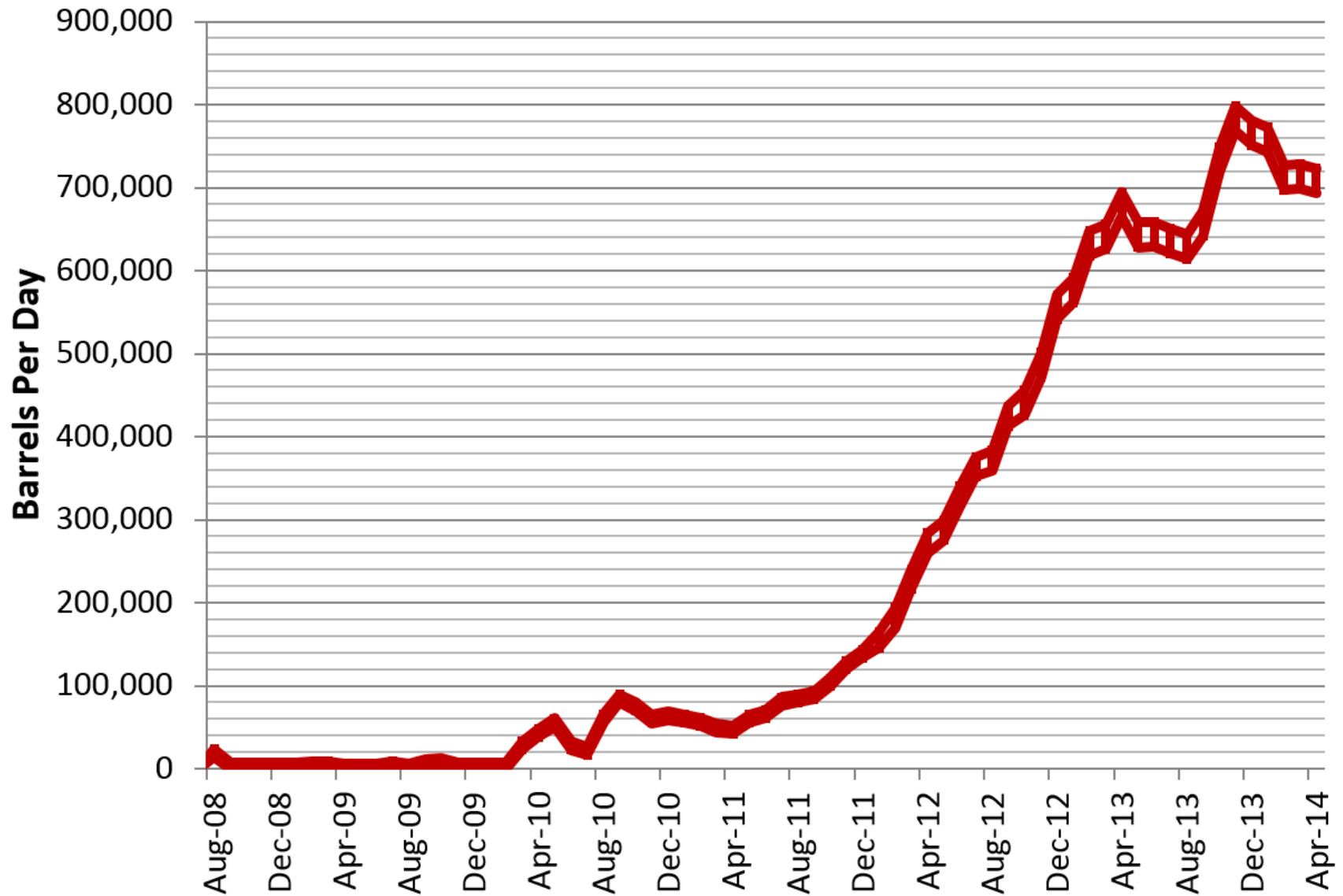




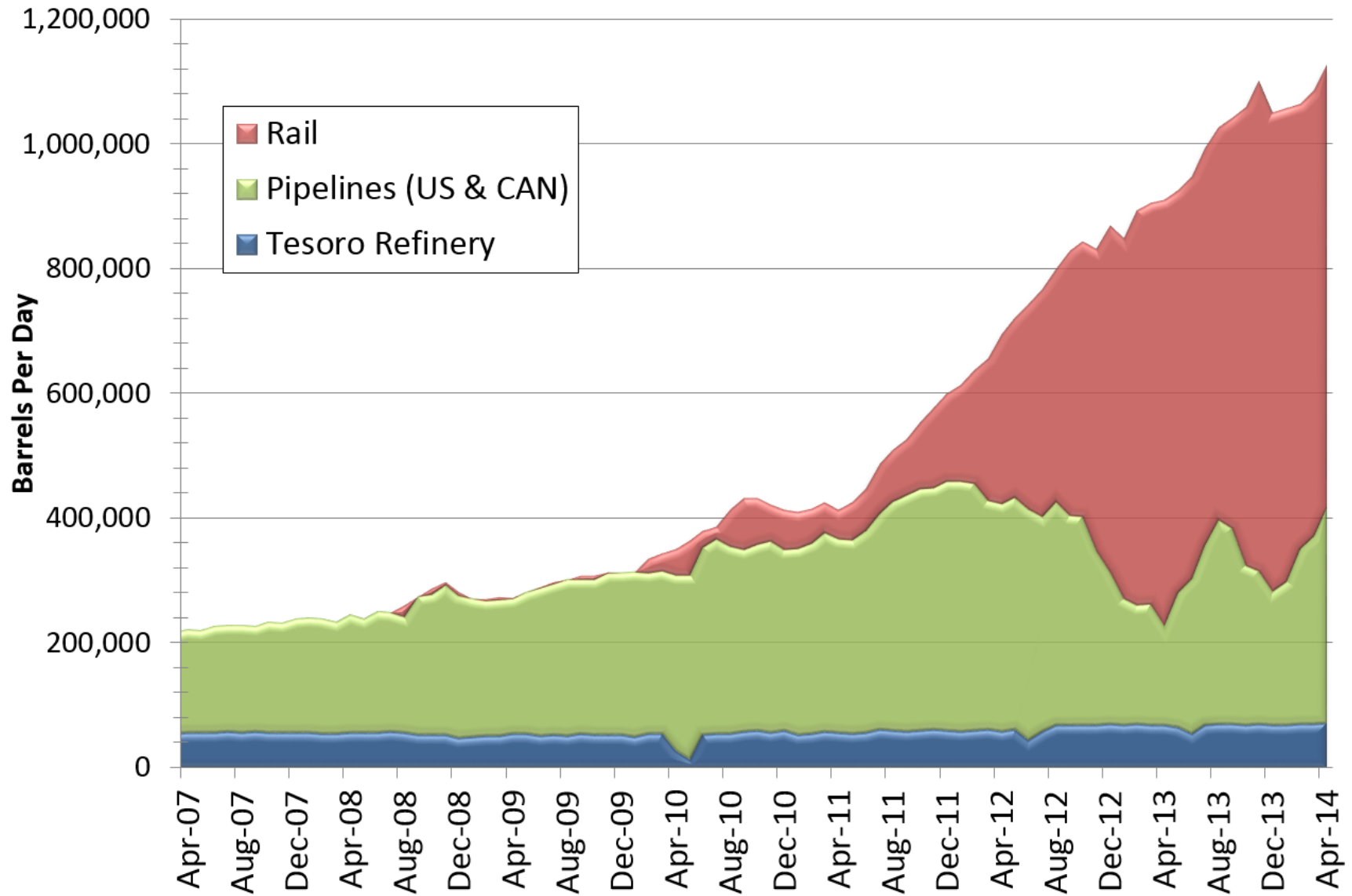
# Estimated Williston Basin Oil Transportation



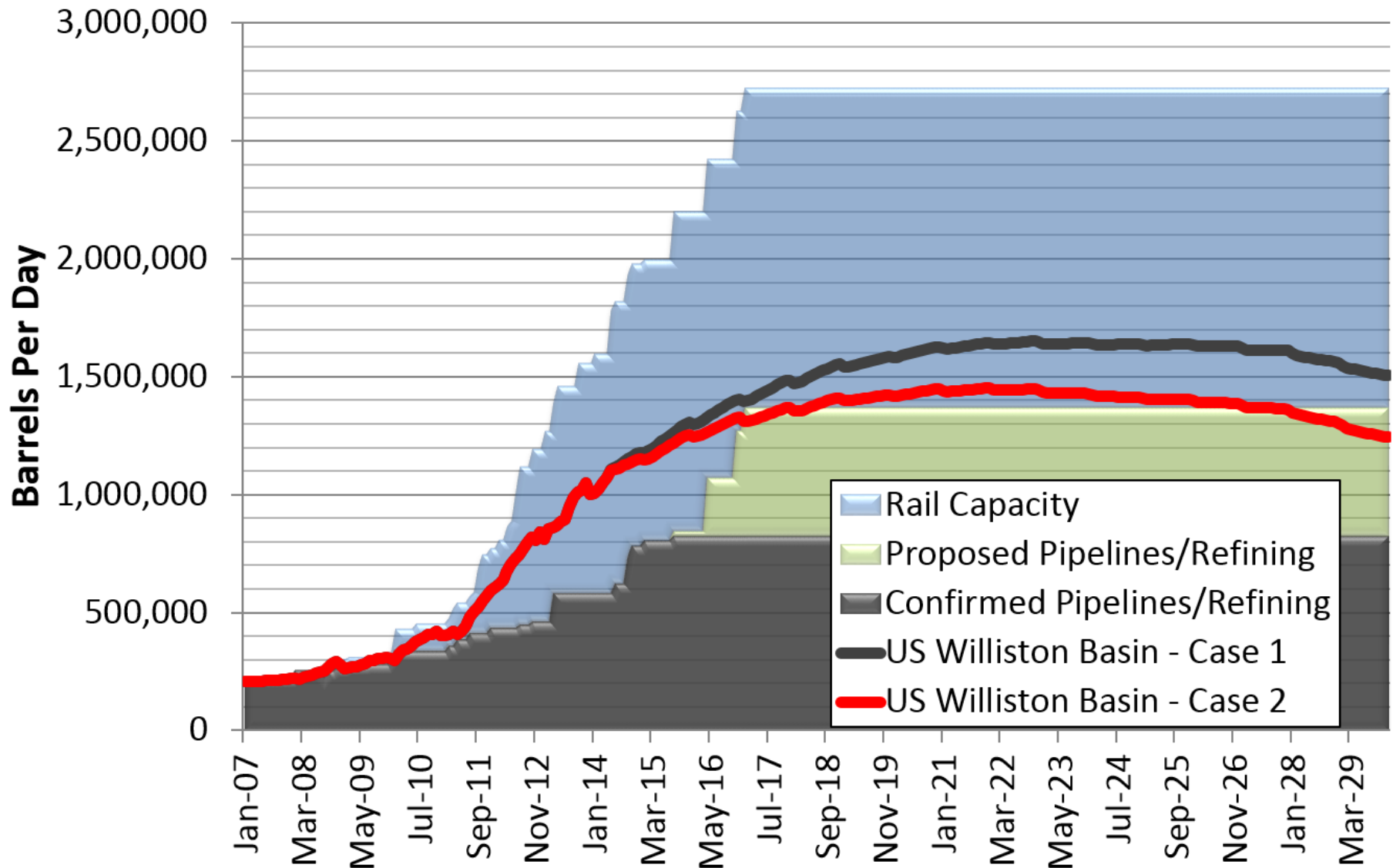
# Estimated ND Rail Export Volumes



# Estimated Williston Basin Oil Transportation



# Williston Basin Oil Production & Export Capacity, BOPD



Production forecast is for visual demonstration purposes only and should not be considered accurate for any near or long term planning.



# Confirmed Pipeline Projects

## **Butte Loop**

- In-service Date: Q3 2014
- 110,000 BOPD
- Service to Guernsey, WY

## **Hiland Double H**

- In-service Date: Q4 2014
- 50,000 BOPD (Expandable up to 100,000 BOPD)
- Extended Open Season to April 16, 2014
- Service to Guernsey, WY

## **Plains Bakken North**

- In-service Date: May 2014
- 40,000 BOPD (Expandable up to 70,000 BOPD)
- Movement North to Canadian Interconnect





# Pipeline Projects In Business Development or Regulatory

## **North Dakota Pipeline Company Sandpiper**

- Open Season Successful: 155,000 BOPD Committed
- 225,000 BOPD ND Capacity to Clearbrook, MN (24")
- 375,000 BOPD Clearbrook, MN to Superior, WI (30")
- In-service Date: Q1 2016

## **Enterprise Pipeline**

- 200,000-250,000 BOPD
- Route: Stanley, ND to Cushing, OK 1,200 miles, 30"
- In-service Date: Q4 2016

## **TransCanada Keystone XL**

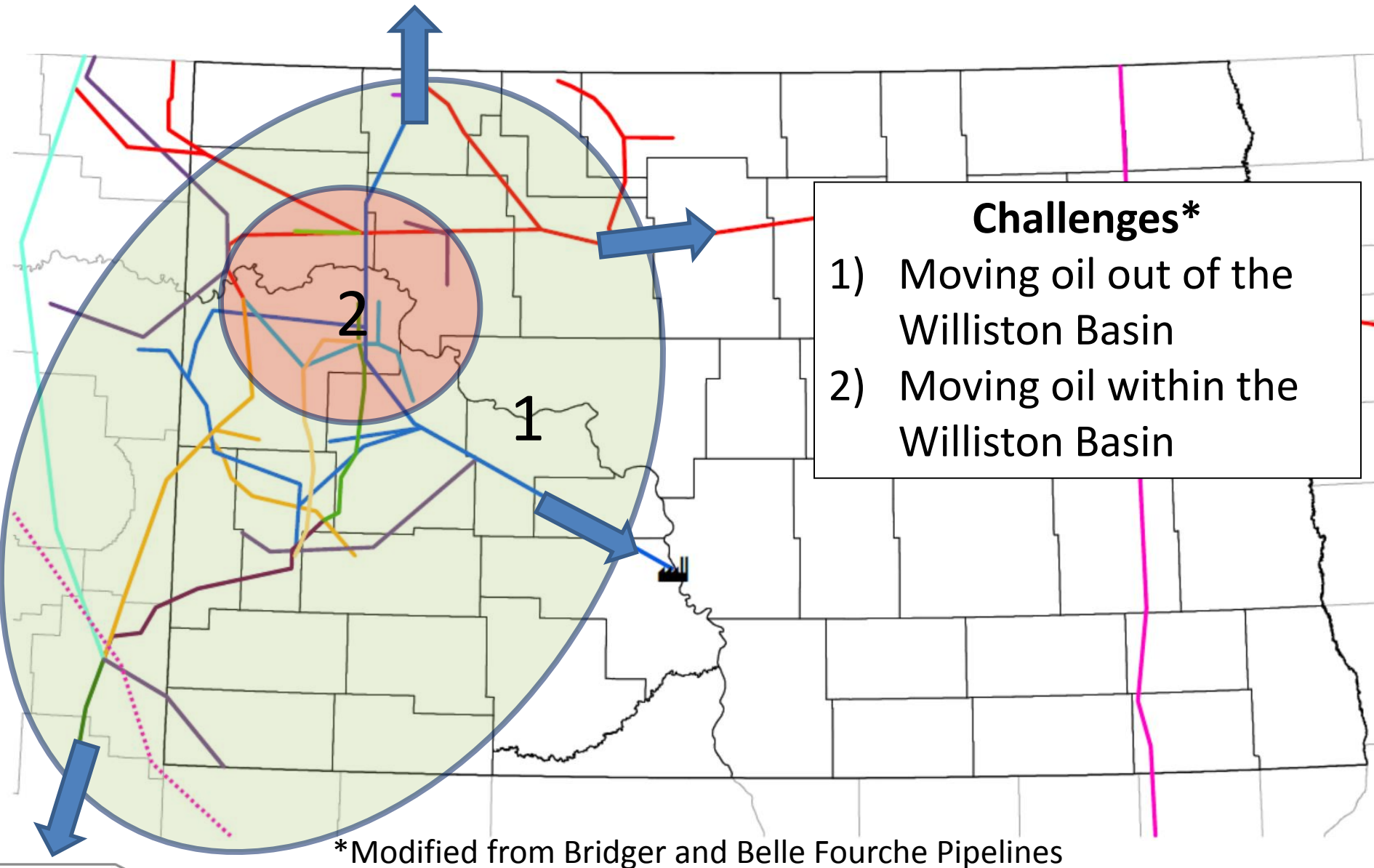
- Up to 100,000 BOPD
- Timeline Uncertain

## **Energy Transfer Partners**

- Binding Open Season Launched March 12, 2014
- Additional Project Details Unavailable

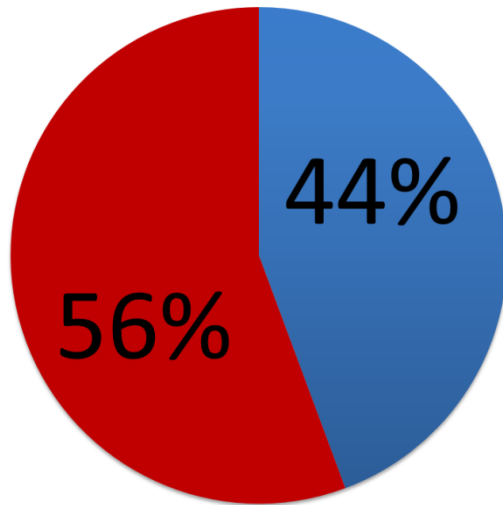


# North Dakota Crude Oil Pipelines



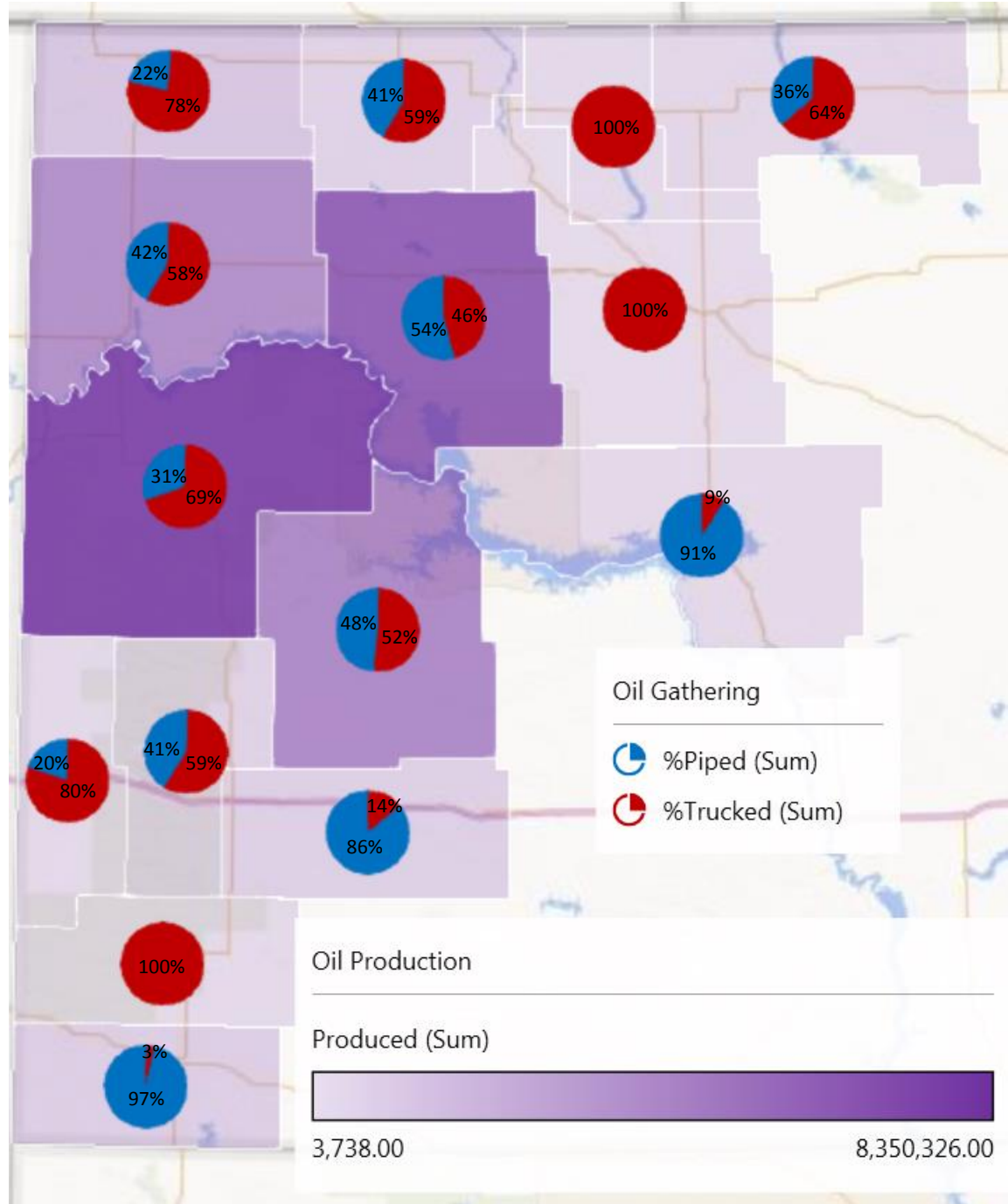
# ND Oil Gathering

**Red** – Trucked  
**Blue** – Pipeline



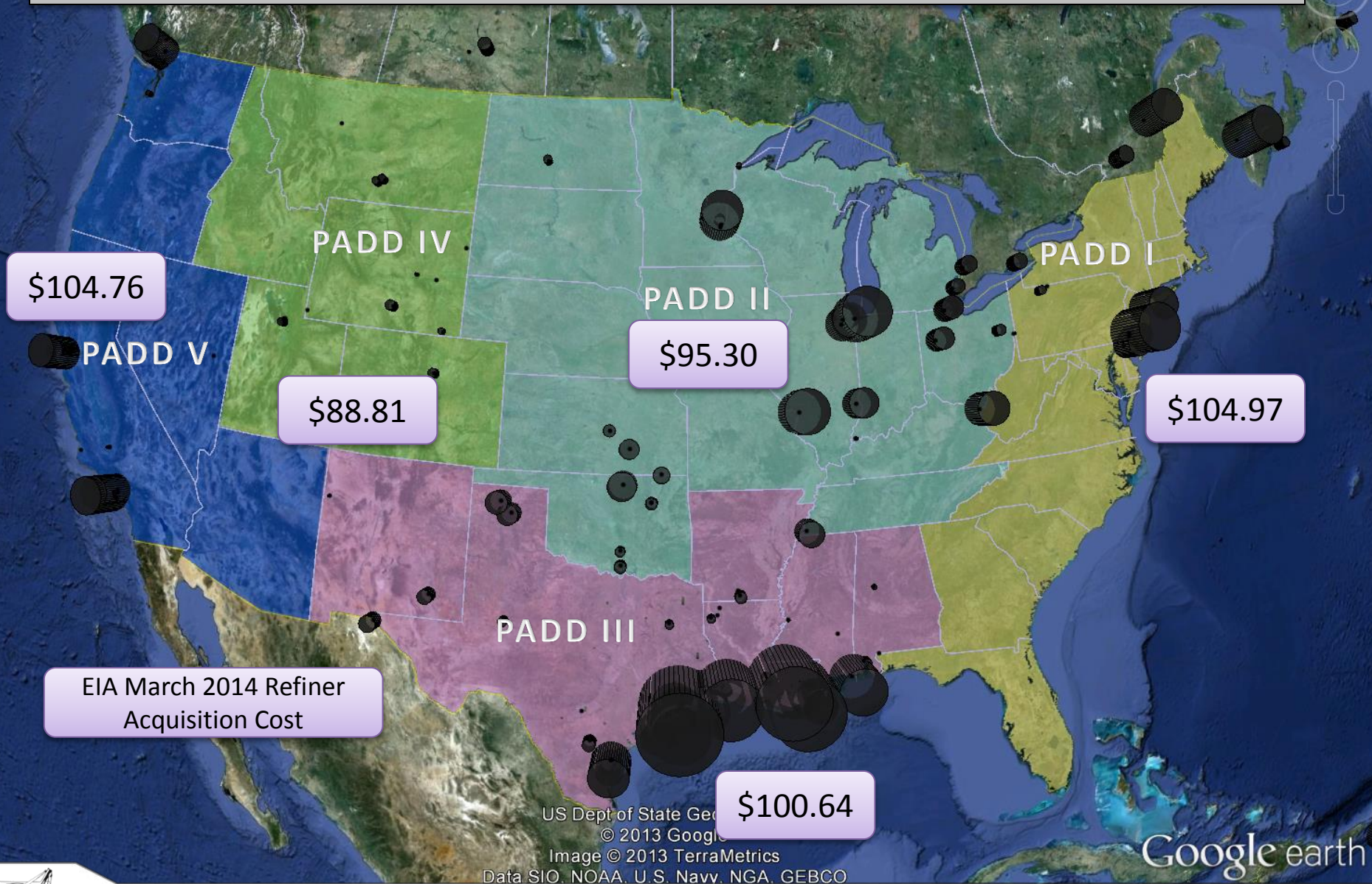
All ND Production

Sep 2013 Estimates  
Some data incomplete or unavailable



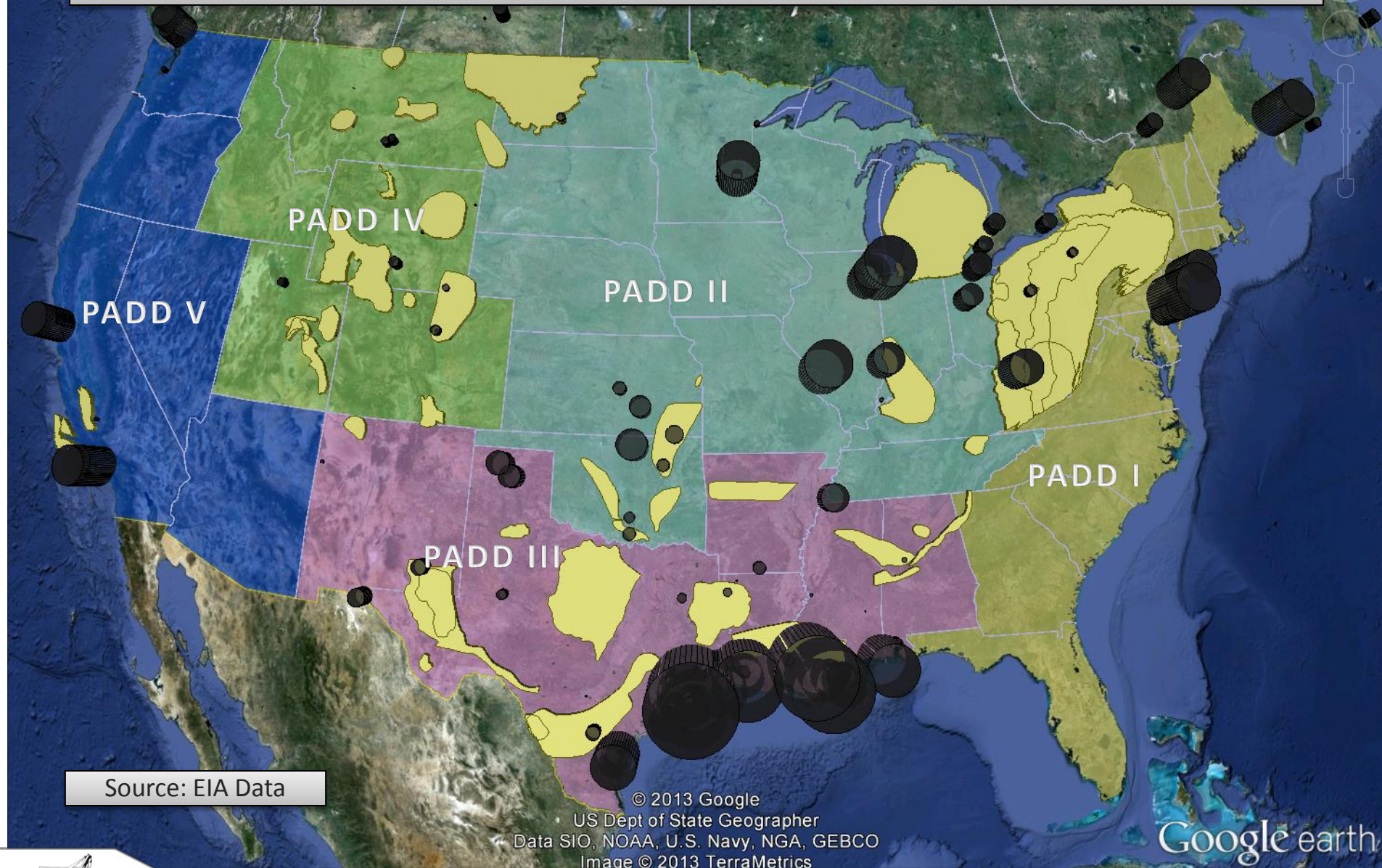


# US Refining Markets



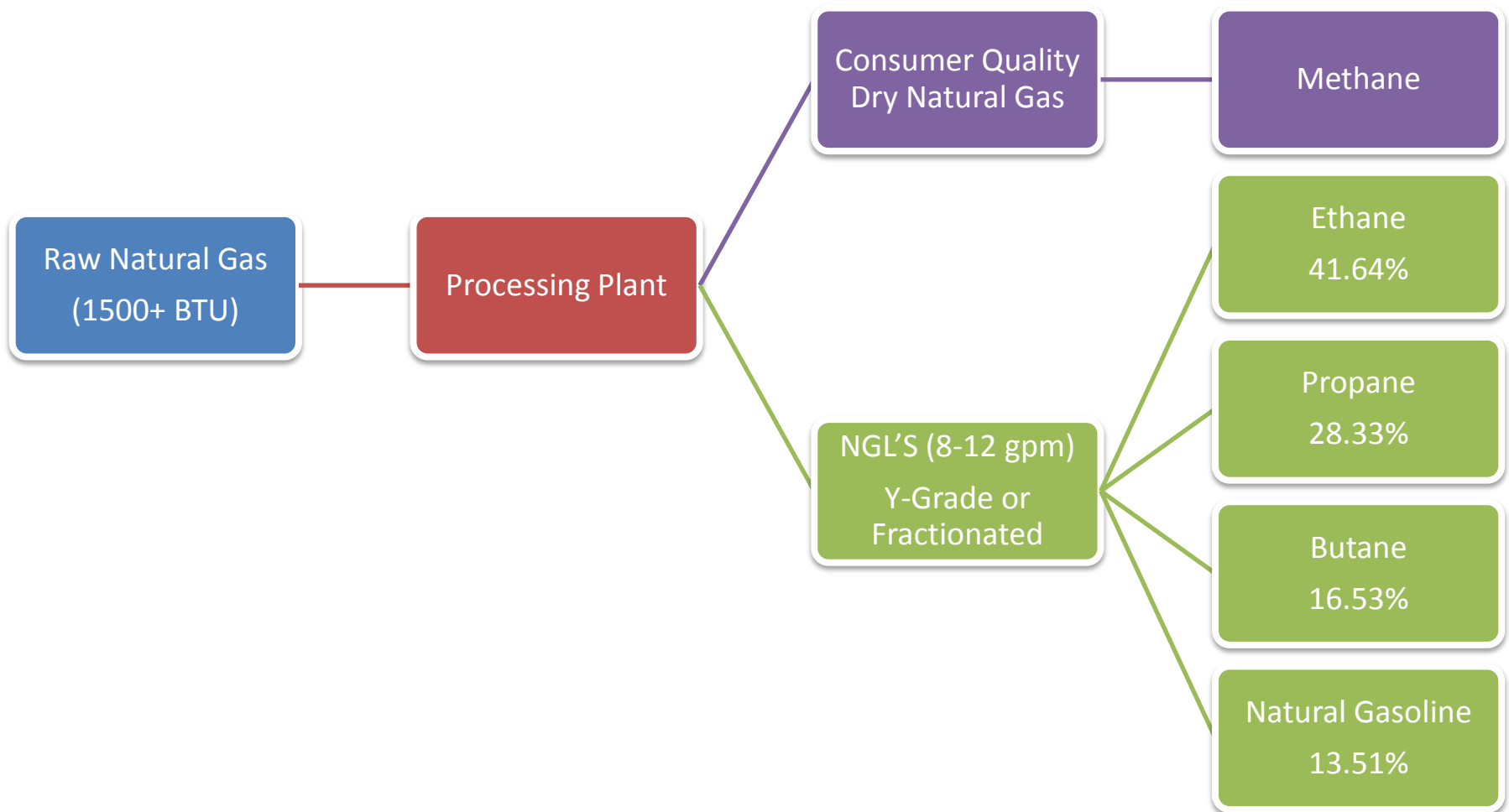


# US Shale Plays and Refineries





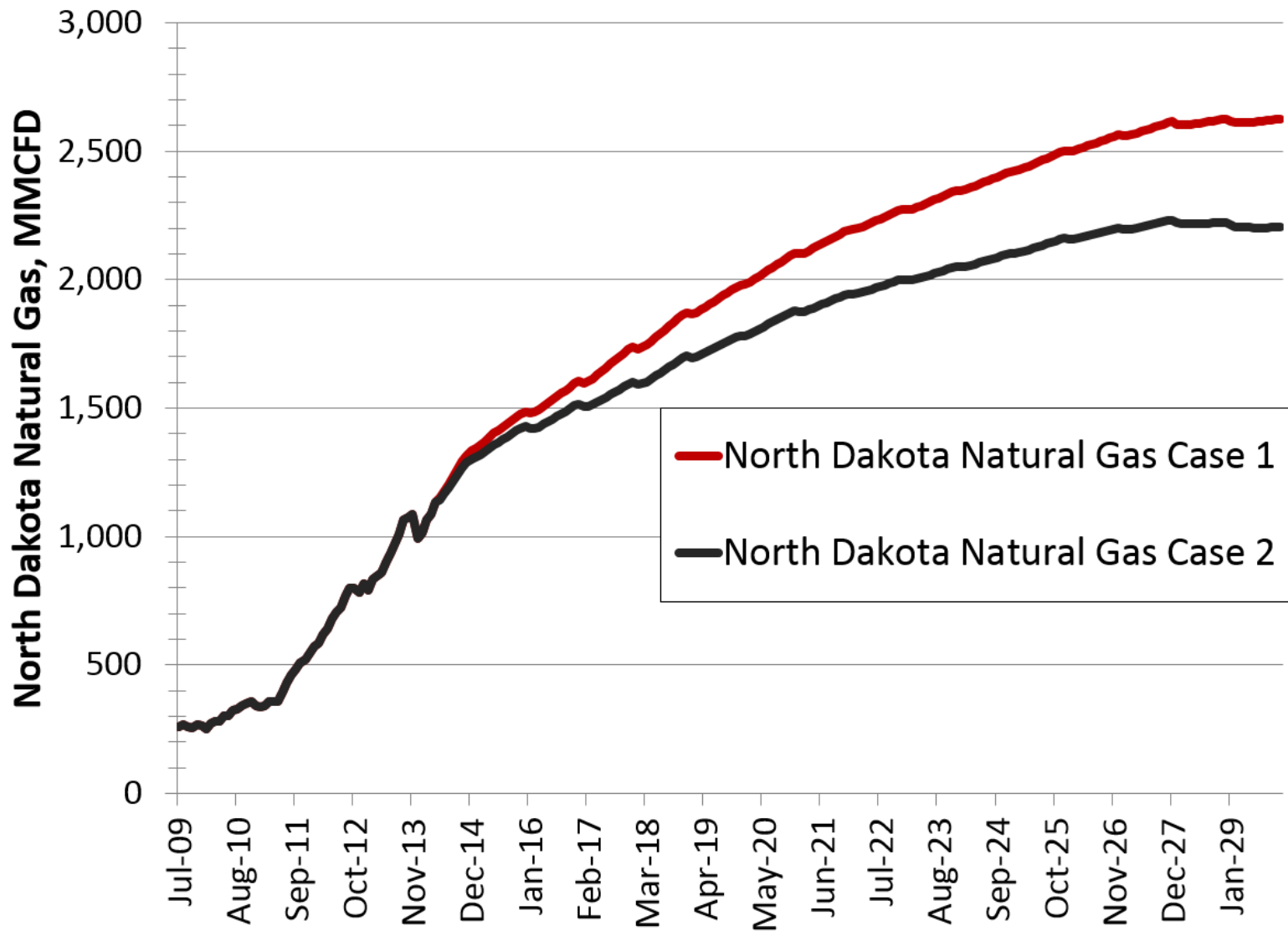
# Rich Natural Gas



*\*Using NGL breakdown from the July 2012 BENTEK Natural Gas Study*



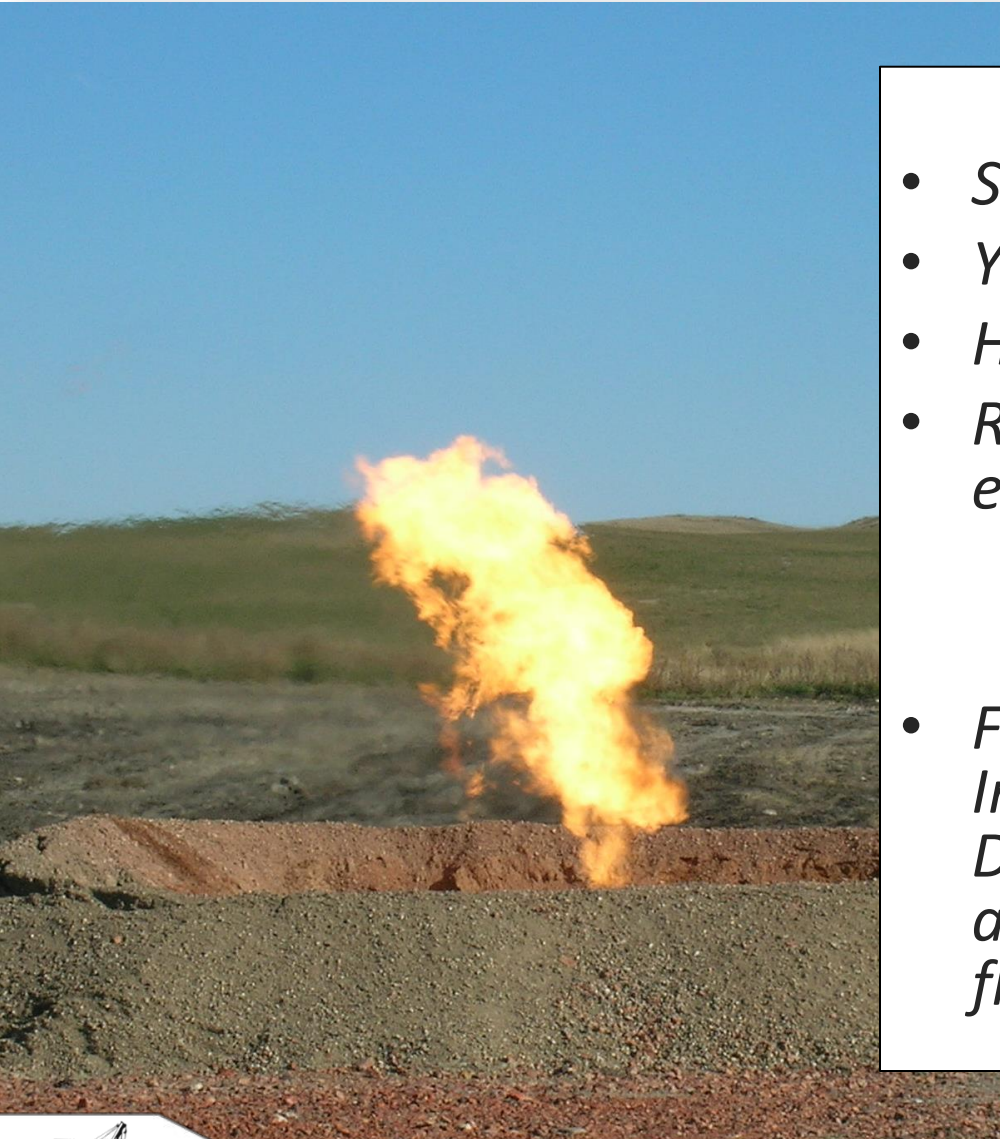
# North Dakota Natural Gas Production



Production forecast is for visual demonstration purposes only and should not be considered accurate for any near or long term planning.



# Natural Gas Flaring Facts/Challenges



## ***Primary Challenges***

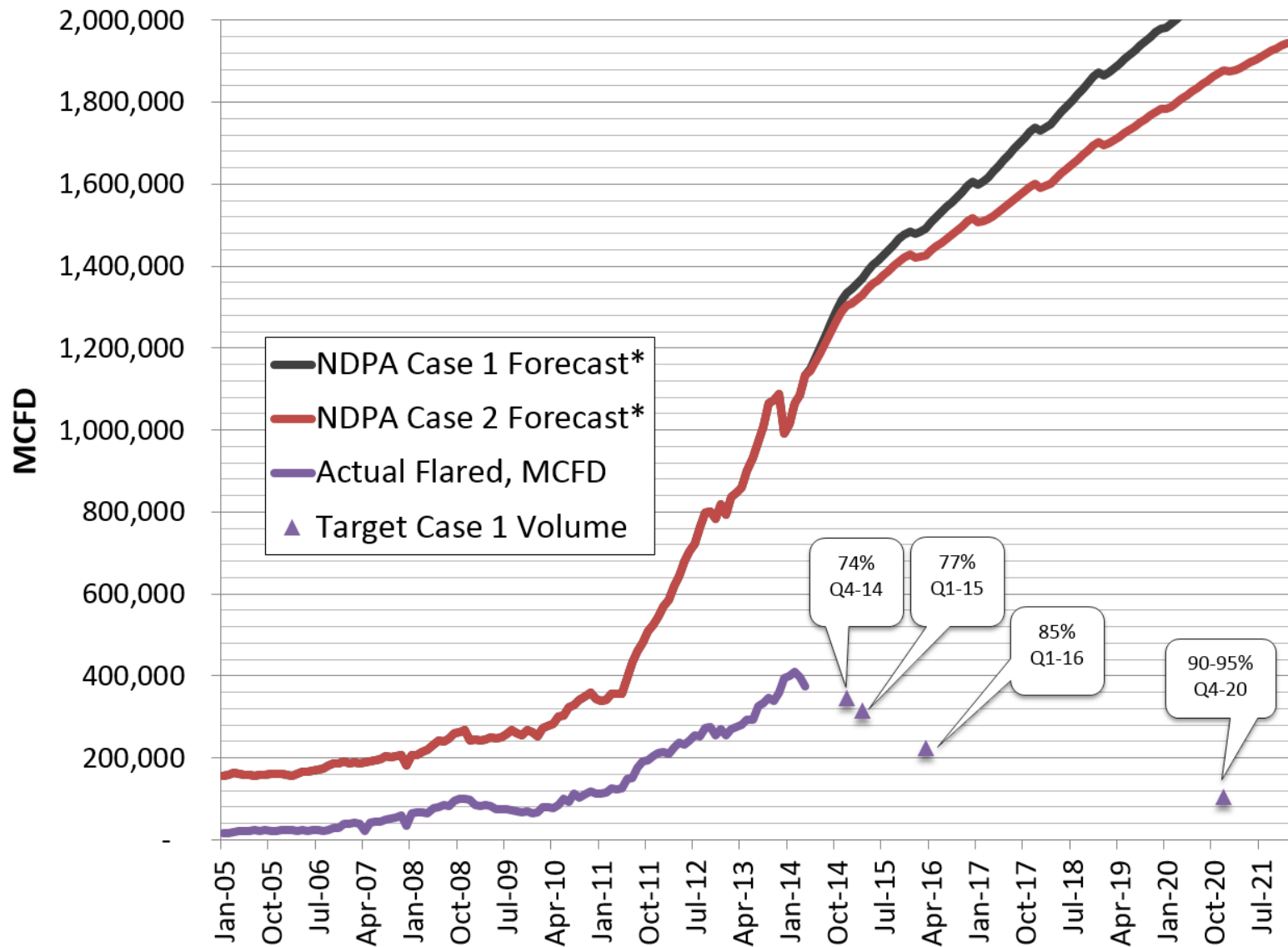
- *Size of resource*
- *Young age of development*
- *Harsh winter conditions*
- *Resource potential still being explored*

## ***Regulations***

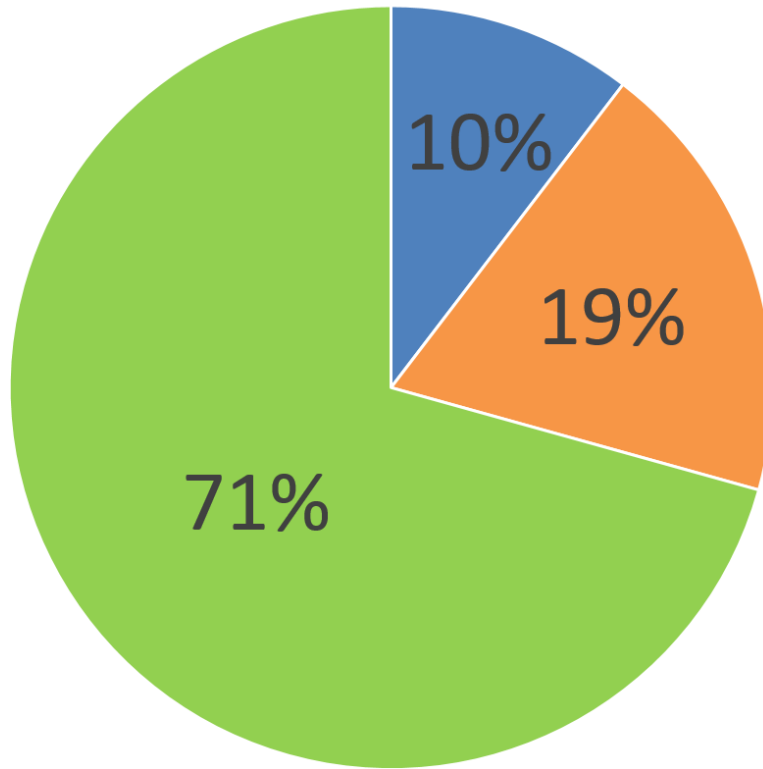
- *Flaring regulated by the ND Industrial Commission/Oil & Gas Division with existing penalties and incentives in place to reduce flaring*



# Solving the Flaring Challenge



# Solving the Flaring Challenge



Statewide

**GREEN** – % of gas captured and sold  
**Blue** – % flared from zero sales wells  
**Orange** – % flared from wells with at least one mcf sold.

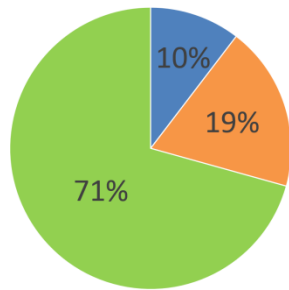
## Simple Terms

**Blue** – Lack of pipelines  
**Orange** – Challenges on existing infrastructure

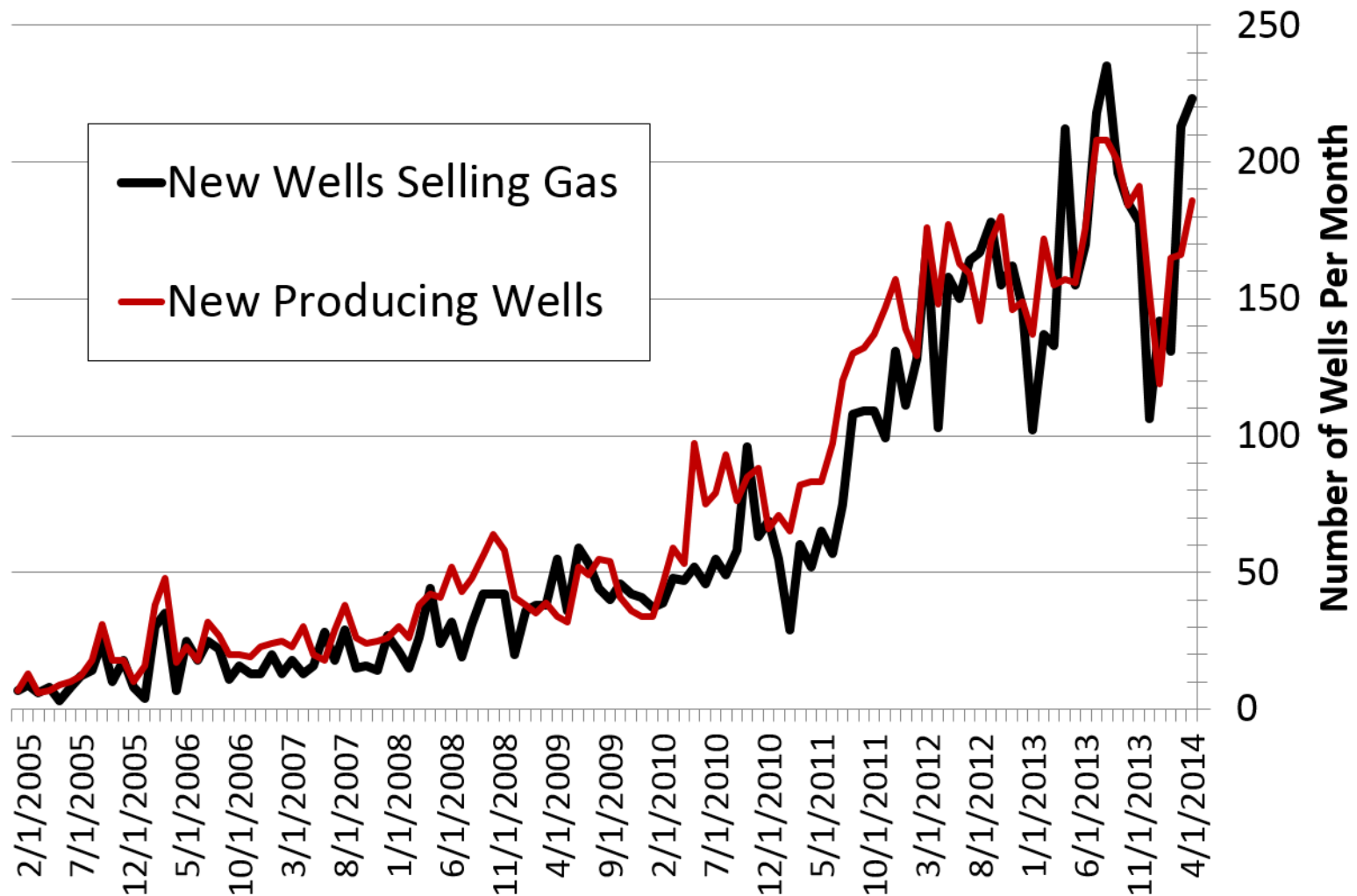
April 2014 Data – Non-Confidential Wells





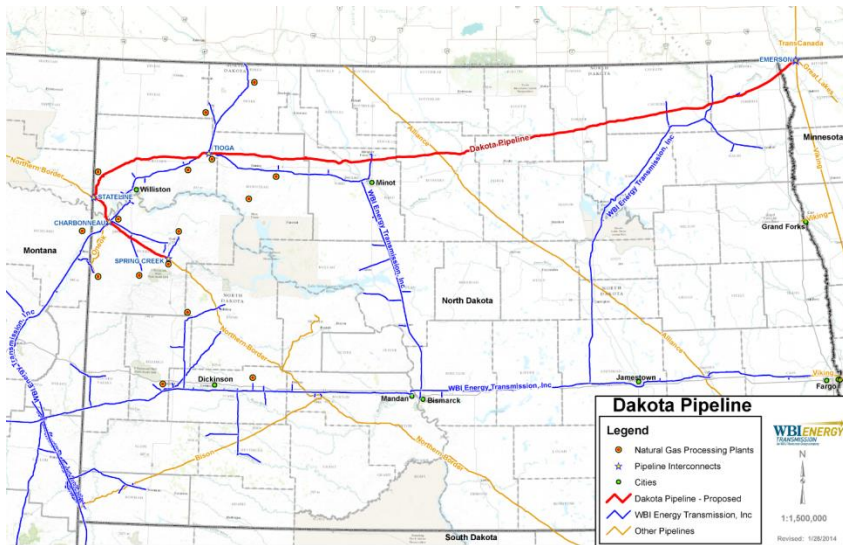


# Capturing the 10% Faster Well Connections



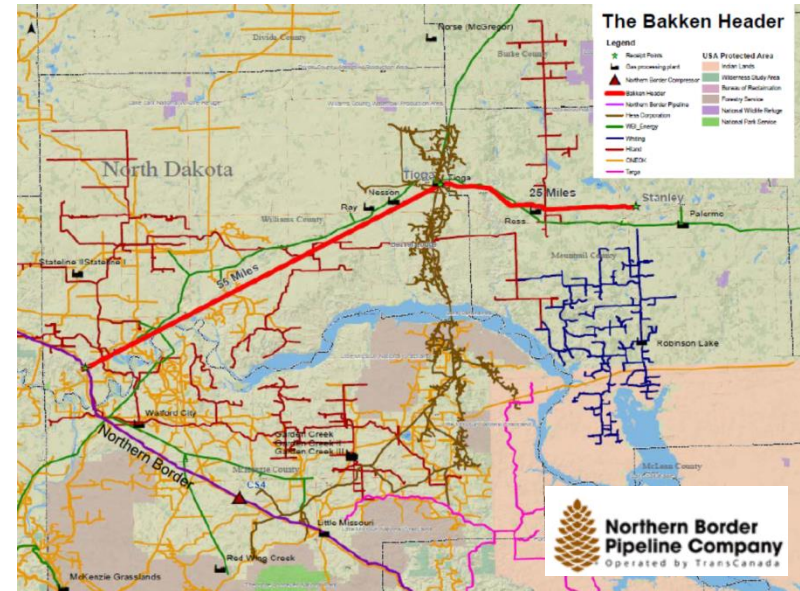
# Major Gas Projects in Development

## WBI Energy – Dakota Pipeline



- 400-500 MMCFD
- 375 Miles, 24"
- Proposed In-service: 2017

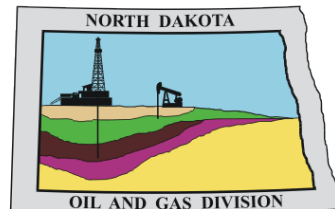
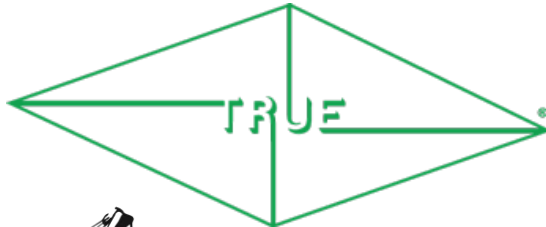
## Northern Border – Bakken Header



- 400 MMCFD
- 55 Miles, 20"
- Proposed In-service: Late 2016



# Governor's Pipeline Technology Working Group



**NDSU** NORTH DAKOTA  
STATE UNIVERSITY



# Contact Information

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[www.northdakotapipelines.com](http://www.northdakotapipelines.com)



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